

## **4CAQTF**

### **Special Meeting Oil & Gas / Cumulative Effects**

2/27/2007

Hosted by EPA Region 8

Participants: Kevin Golden (EPA), Liana Reilly (NPS), Mike George (NPS), Mike Lazarro (Argonne), Dave Brown (BP), Jen Mattox (CDPHE), Curt Taipale (CDPHE), Reid Smith (BP), Doug Blewitt (Contractor for BP), Myke Lane (Williams), Rita Trujillo (NMED), Dirk Wold (Williams), Cindy Cody (EPA), Cindy Beeler (EPA), Bruce Gantner (Conoco Phillips), Roger Cole (Argonne), Suzanne Holland (Chevron), Rebecca Reynolds (RRC – Project Manager 4CAQTF) By Phone: Bill Hochheiser (DOE), Mary Uhl (NMED).

#### **Welcome**

Cindy Cody – welcome to EPA's new building, green features. Thank you for being here. Today's work: step one of agreeing on emissions inventory for the TF CE group to use to address the tagged items. This is very important so that we can include in the Task Force Report some sense of what the impact of these mitigation options may be.

#### **Meeting Objective**

Rebecca Reynolds, Facilitator

Clarify difference between Cumulative Effects workgroup and Modeling Project, and what we are doing here today.

Discussion:

Clarify what Environ is working on, its status and who is footing the bill:

- 1) WRAP Inventory – currently revising oil and gas section. 4CAQTF uses this but is not paying.
- 2) New Mexico San Juan and Rio Arriba Counties inventory. Area sources only - ozone precursors. Completed and NM paid. (This is NOT the Giant SEP.)
- 3) Giant SEP: NO<sub>2</sub> Increment Analysis. This is in process and NM is paying.
- 4) Modeling Project: Build Input Files – In process, BP is paying for this and agencies coordinating the Task Force will use in the modeling project.
- 5) NM RFP for the modeling project (to model up to five scenarios for the Four Corners area). NM is paying, RFP is not yet out. Expect that Environ will bid on the RFP.

The inventory that we discuss today is the first step to getting some indication of the emissions benefits from certain mitigation options (the ones CE will look at are the ones the sources groups have tagged over the past year of developing the papers). The results of this work will be included in the Task Force Report, however, the Report is NOT the final result. From the report, which is a compendium of possibilities (not recommendations), the agencies will take the next step of modeling scenarios and doing other analysis the agencies decide is necessary to determine which mitigation options will be moved forward.

The Modeling Project will include stakeholder input, but ultimately the decision for what will be modeled will be decided by the agencies. The agencies will use this information in their

decision-making process to determine what mitigation options will be moved forward. The process by which stakeholders can contribute to the modeling effort will be explained in the next few weeks.

Today, the primary task is reviewing and deciding upon an inventory that the CE workgroup can use to address the tagged oil and gas mitigation options. If we get this accomplished, we can discuss other issues that arise.

### **Emission Inventory Presentation** (see PPT)

Doug Blewitt, presenter

4C area represents a very complex area for inventorying. There are a number of existing inventories, but what is there is not complete and some not accurate.

Existing Inventories include:

WRAP 2002 O&G

SUIT 2002

SUIT 1999 Small Source Inventory

Northern San Juan EIS Part 71 Inventory

BP 2002 Inventory

NM 2002 Area Source Inventory (San Juan and Rio Arriba counties)

But no single inventory accurately describes emissions for the region.

Doug built spreadsheets of emissions – we will post on 4C website, CE workgroup page. The spreadsheets include all of the EI information, growth projections, and values for control.

### **Colorado Inventory Approaches (CDPHE & Southern Ute Indian Tribe for La Plata County)**

(Most is coalbed methane gas)

BP and SUIT provide for 90% of production (BP is about half)

He compared approach 1 and 2 to see if they agree and where.

Approach 1: all BP operations and includes everything of theirs (gas plants, etc.)

He used BP data, which he has, and extrapolated to everything.

Approach 2: BP plus Title V permits that are not BP's plus SUIT

Using BP plus other information and then compare the two to see if they agree.

Both approaches were for NOx.

Comparison of the two: virtually the same and they show that the majority of emissions are coming from engines > 500 hp.

Assumed 100% load not derated.

Engines only include operations so far (no drill rigs) and all natural gas, no diesel.

Engine manufacturer's certifications used.

Did you factor in age of BP information (engines) into inventory? No.

Factor used for NOx? Assuming 100% level, we did not de-rate the emission factor.

In La Plata County, all BP compression at gas plants is electric.

Suzanne: This helps us by giving us the contribution %.

Doug: remember, this is just Colorado!

Summary of Engine Emissions in Colorado slide:

Made an assumption that for engines >500 hp, less than 3 gm/hp-hr are controlled.

For engines <500 hp, control is defined as 5 gm/hp-hr.

Doug: Most of this is on Tribal land and they have no regulatory incentive to put in clean engines but they do so. Roger: Perhaps this is because the big engines are lean burn.

The average is 1.4 gm/hp-hr for the engines >500 hp.

Cindy C: can we get all the assumptions written so we can discuss them? Doug: let's see the whole presentation and then decide what assumptions should be used.

Colorado Conclusions

Large engines are already well controlled – little opportunity for additional reduction

Engineering evals need to be conducted to determine potential mit ops (this is being worked on by Kansas State)

Inventory Conclusions

Doug: This inventory is pretty good as is. Mike G: for our purposes, this is good enough for Colorado.

Before modeling emissions reduction improvement, add't inventory refinement should be done: EPA pull 2002 Part 71 actuals and substitute for the 2001 actuals

Is there agreement that this is good for Colorado?

2002 timeframe? Yes. But for 2010 maybe not (more conventional wells in Colorado in the future).

Limitation: based on BP engines; other companies may have older, dirtier engines. Can we id this as an assumption?

LUNCH BREAK

**New Mexico Inventory** (Doug's PPT cont'd)

Difficult situation – there was nothing to do a comparison with so that was difficult.

I had the BP info and some NM inventory info from their website, but not all.

I will integrate the new information I have now, but I am not sure it will change the mix of things very much. The numbers may be off, but the relative contribution will not likely change.

25-30 % of BP has NM permits. Largely stuff that is coming under the permit threshold. This is the group of sources we are trying to capture in NM.

FYI: 10 (NOI threshold), 25 (permitting threshold), 40 (streamline threshold) tons/year are the NM permit thresholds

BP is only 10-20% of the conventional south basin area.

Findings:

Engines <100 hp is major contributor for emissions; mid size some contribution, large not much at all. Very different from Colorado.

Why is this so different in NM? Is this difference attributed to coal bed methane vs. other types? Reid: Colorado is coalbed methane so their approach is more centralized compression, with reasonably new fields. As opposed to NM which has been in production since 1940s, has a very depleted energy environment, and lots and lots of wells with small amount of production per well. Lots of well head production to reduce back pressure so as to generate greater amount of energy in this environment. As you deplete your reservoir, it takes more hp to get the same amount of gas. You may also have flat production with more NOx emissions. By and large, the engine mix is getting smaller.

Myke Lane: pull mid stream out of Colorado to see if the small engine contribution gets smaller? What is the definition of "production"? We need to make this clear. (See oil & gas workgroup definitions?)

Rita: Cannot compare CO and NM since they are not including the same things. CO inventory numbers includes all sources; NM only includes area sources. Need a better idea of the relative numbers.

Producers in NM SJ Basin (approximate):

Conoco Phillips: 60%

Chevron: less than 10%

Williams Production: 10%

BP: 20%

Doug: Do any of the operators have inventories to send to me?

Conoco Philips data is in NM SJ/Rio Arriba inventory.

Suzanne just sent some Chevron data to Mike Lazarro, but not sure it is what is needed for this effort.

Doug: I did a comparison with the 2002 WRAP inventory and mine was 40% low. And mine is based on actuals.

NEI Title V sources: Rita will get this to Doug so he can include.

Emission factors are noted in PPT (see Summary Table of Engine Emissions in NM) and also in the spreadsheets.

## **Group Decisions on Inventories**

### **Colorado Inventory**

Decision: For CE's purposes, this inventory will be workable. Liana: pls. add 300 hp as another cut. This will be consistent with BLM requirements. Agreed.

### **New Mexico Inventory**

NM Inventory: Doug knows he has more work to do and will do it but asks for inventory information to be sent to him (Rita will send NM inventory)

Rita: we have talked a lot about NOx but not much about VOCs. We have been open about what air quality issues we are addressing: NOx, ozone, visibility, greenhouse gases, etc.

Decision: Once Doug gets the NM info (Title V, Environ Report, San Juan EAC data) added to the spreadsheet, he will update the PPT with caveats and assumptions clarified. He will then add drill rigs. All of this will be complete by 3/29 and emailed to this work group. The group will have until 4/5 to get any comments back via email to Doug.

After this point, the CE workgroup will use these inventories on which to base their emissions calculations work on the O&G tagged mitigation options.

### **Emission Growth (PPT cont'd)**

The purpose of EIS Growth is to replace depleted reserves and will not result in a sustainable increase in overall production. In order to examine mitigation, potential growth needs to be considered. Growth should be considered in the CE workgroup's analysis of the tagged items.

Doug used recent EIS RODs and EIA projections to form the basis of his growth calculations: SUIT EIS – all this will happen within 5 years

Northern SJ EIS

Farmington RMP EIS

Does the EIA include regional projections for growth? Would be worth looking for.

Myke Lane: Thinks that the BLM 2 gm/hp-hr requirement also applies to Jicarilla National Forest development.

## **Group Decisions on Emission Growth**

New Mexico:

For engines 100 hp and less based on Farmington RMP, beginning Jan 1 2006, we are going to apply 5 g/hp-hr until the NSPS becomes fully effective at which point we will assume the NSPS emissions (proposed at 2 grams). This only applies to NEW engines.

For engines greater than 100 hp, we are going to apply 2 grams/hp-hr after 1/1/2006.

Colorado:

Use Northern San Juan Basin EIS projections and the SUIT EIS, with NSPS factored in for the small engines.

**Mitigation Analysis (Example)**

Methodology: Use growth inventory by source type to examine specific emission reductions from mitigation. Separated effects of existing and growth emissions. Presented as an example of one way to analyze mitigation options.

Meeting adjourned 4:00 p.m.